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ABSTRACT

A workplace literacy project for the manufacturing industry in Chicago and Cook County, Illinois, developed this competency-based curriculum guide for basic skills instruction. The introduction outlines manufacturing trends that make certain basic skills critical for workers. The project's six-part model is outlined: initial contact, needs assessment/analysis, planning, designing the curriculum, implementing, and evaluating. The curriculum content section lists core competencies and core skills in the areas of reading, writing, math, and oral communication (English as a Second Language). Guidance in using the core curriculum is provided, with information and forms for conducting a job task/basic skills analysis, steps in writing a customized curriculum, and sample syllabi. The next two sections explain how to design basic skills lesson plans and customized tests. Ten references conclude the guide. (NLA)

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THE CENTER - RESOURCES FOR EDUCATION

A BASIC SKILLS CORE CURRICULUM

for the MANUFACTURING INDUSTRY

Linda Mrowicki, Project Director

Developed By:

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U.S. DEPARTMENT OF EDUCATION
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Funded by the U.S. Department of Education, Grant # V198 A10501

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PREFACE

This curriculum was developed as a part of Project Workplace Literacy Partners for the Manufacturing Industry in Chicago and Cook County, funded by the U.S. Department of Education. The goal of the project was to provide workplace basic skills instruction to more than 650 workers at thirteen manufacturing sites.

In its role as a demonstration project, staff did extensive research on the basic skills needs of the manufacturing partners. Those results were then used to develop customized curriculum at the various sites. At first, both the research and the curriculum were time-consuming endeavors. As more sites were analyzed, a pattern began to emerge and the curriculum development became systematic. Project staff pooled their experience and knowledge and drafted a "core curriculum of competencies and basic skills" which were later field-tested in developing other curricula. This core curriculum was found to be beneficial in streamlining the entire curriculum development process.

The curriculum could not have been completed without the assistance and cooperation of many people who worked on the project. Project staff included:

Monica Lynch, Project Coordinator, The Center; Douglas Jones and Carol Larsen, Site Coordinators/Trainers, The Center; Tess Locsin, Site Coordinator/Trainer, Traveler's and Immigrant's Aid of Chicago; Bill Newman, Site Coordinator/Trainer, School District #214; and Mavis Dowd, Site Coordinator, Management Association of Illinois.

Instructors included David Acuff, Joanna Amaral, Charles Atlas, Alma Barsanti, Virginia Bastiaans, Pauline Cleveland, Mavis Dowd, Karen Eichhorn, Rachel Gilmore, Matt Huseby, Devra Jacobsen, Kay Meier, Bill Newman, Verjean Oshana, Judith Oswald, Cathy Perillo, Collette Poindexter, Elizabeth Porter, Fran Ramer, Laima Schnell and Vickie Woodruff.

Company contact people who provided input and assisted with the development of the program include: Doris Stephenson, Bloomfield Industries; Bud Bruley, Bretford Manufacturing Co.; Fred Montero, Courtesy Manufacturing Co.; Bob Field, DuPage Die Casting Co.; Steve Yacyshyn and John Brunner Duraco, Inc.; Ray Moroni, Jeff Sorenson, Bob Hill, and Jimmy Roberts, Electro Motive Division of General Motors; Althea Schuller, Hudson RCI; Michelle Phillips, The Intec Group; Judy Rafferty, Integrity Uniforms; Joyce Huston and Brian Valentine, Multigraphics; Jennifer Campe, Shure Bros., Inc.; and Bob Hoff, Webster Hoff Inc.

I hope that this curriculum will provide guidance to other programs in developing their basic skills curriculum for manufacturers.

Linda Mrowicki,
Project Director

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INTRODUCTION

Manufacturing Today

Basic Skill Needs of Participating Partners

The Project Model

By

John Conrath
Monica Lynch
Linda Mrowicki

INTRODUCTION

MANUFACTURING TODAY

The manufacturing industry is going through rapid and major changes today. As more and more countries develop their abilities to manufacture goods, there is increased competition for quality goods at the lowest prices. In order to remain competitive, U.S. manufacturers must address the issue of quality and cost-effective production.

American manufacturing is changing from the mass-production method, where work is segmented into discrete chunks and focused on the product, to more of an emphasis on the process. Today's workers are expected to perform a variety of tasks and function as members of a team. More skills are demanded of manufacturing workers.

These are some of the trends in manufacturing today:

Total Quality Management:

Total Quality Management (TQM) is aimed at transforming how a company does business both internally and with its contractors and suppliers. TQM is based on the well-articulated concepts pioneered by such visionaries as Deming, Juran, and Fiegenbaum, and employs not only the traditional statistically based problem-solving techniques, but the more modern approaches of Ishikawa, Taguchi, and others. The operative concept of TQM is "Continuous Process Improvement" involving everyone in the organization, managers and workers alike, in a totally integrated effort toward improving performance of every process at every level. This improved performance is directed toward satisfying such cross-functional goals as Quality, Cost, Schedule, Performance, Manpower Development and Product Development. The ultimate focus of every process improvement is increased customer/user satisfaction. Not incidentally, the customer/user's views are actually sought in developing the process improvement methods.

The Total Quality management strategy is structured to change the quality focus; quite literally to change the quality culture of the company, its contractors and their principal subcontractors. TQM is not just another program. TQM seeks to raise a collective vision of quality and is premised on this Continuous Quality Improvement, which is a never-ending process. This means focusing on all of the processes that in their totality, determine the quality of the product: every design process, every development process, every manufacturing process, every quality assurance process, and most importantly, every administrative process.

Employee Involvement

One of the central tenets of Total Quality Management is that of employee

involvement. Organizations, both public and private, that enhance or adapt the TQM way of life are building their process and procedures around a self-regulated team concept. Company organizational charts are flattening out, resulting in a group of employees who are empowered to make decisions, initiate change, problem solve and communicate with all levels of the organization.

There are various problems that are encountered when workers do not have the verbal skills to participate in team meetings, nor the reading and writing skills to solve problems and effect change.

English as the Language of Work

The sweeping changes in manufacturing which include the employee involvement intrinsic to total quality management, require employees who can speak to each other. They must interact in teams and express opinions at meetings. No longer can limited English speaking employees get by without having to speak on the job. Multilingual workforces need a common language, English, in order to function.

New Technology

New technology is transforming manufacturing plants. Robotics, CNC, and computerized ordering systems as well as other technologies are streamlining production processes. They require workers who have the basic skills to master them.

Skills Training

As manufacturers embrace the above changes in the workplace, they are finding a critical need for basic skills. Workers are failing at the TQM initiatives because they do not possess the requisite basic skills. For example, workers lack the basic skills to do SPC, workers fail to participate in meetings because they have poor command of English or workers cannot comprehend training materials due to poor reading skills.

Work Teams

In the past each department in a manufacturing plant was responsible for one process; workers performed one operation. Work teams, in contrast, produce the complete product. Instead of assembly line operations the plant is divided into groups of teams responsible for all phases of production. Workers must be cross-trained in each function. Workers are responsible for producing error-free products on time.

Team members must be able to problem-solve and communicate well with each other.

The key to successfully incorporating the above changes is the skills of the U.S. workforce. At a time when the problem of illiteracy has surfaced throughout all facets of U.S. society, the workplace is not spared.

Basic skills involve possessing the necessary reading, writing, computation, problem-solving, communication, and interpersonal skill-building abilities needed to function properly in a job. A closer look at the statistics regarding the lack of basic skills, especially as it's related to the workplace, brings staggering information to light.

More than 27 million Americans over age 17 are functionally illiterate, that is, they are unable to read or write well enough to meet their daily needs. One in eight workers is estimated to read at no higher than 4th grade level, one in five reads only to the 8th grade.

In order for U.S. manufacturers to successfully upgrade themselves technologically, the upgrading of workers' basic skills must also take place.

BASIC SKILL NEEDS OF THE PARTICIPATING PARTNERS

Project Workplace Literacy Partners for the Manufacturing Industry in Chicago and Cook County worked in collaboration with thirteen sites. While each site had unique needs, all sites were united by one factor - involvement in major technological changes which were necessary for their economic survival.

During the course of the project, these major changes were taking place at the sites:

All sites were currently involved or would be shortly involved with providing skills training to its workforce. Examples of this training included: Safety Training as a part of the "Right To Know" programs, Statistical Process Control, Computerized Order Fulfillment, and Blueprint Reading.

About one-half of the companies had primarily Limited English Speaking workers and English was becoming the language of the workplace. In previous years, the workforce was almost entirely Spanish-speaking and supervisors were bilingual. The changing immigration patterns of Chicago resulted in the hiring of other immigrant/refugee groups such as Koreans, Poles, Vietnamese, and Romanians. Given the range of languages now spoken in many workplaces, English has become the primary language of communication. For those who do not speak English fluently, the learning of English is essential to continued employment.

About one-third of the sites were currently implementing a plan for Statistical Process

Control with the remaining sites envisioning SPC as a part of their approach to quality production within the next few years.

One site was investing heavily in Computerized Numerical Control machinery. Successful implementation of new technology rested on the ability of the workforce to be trained in the process.

Preliminary assessments which were a part of the project planning indicated a potential gap between the skill level of some workers and the target level needed for successful implementation of the above changes. Some of these indicators were:

Approximately half of the workers did not have high school degrees. Of the others, many had graduated more than 25 years ago which can indicate that some skills have been forgotten or that some new skills such as how to operate a calculator were never learned. Furthermore, the validity of a high school diploma from certain schools as an indicator of basic skills can be questioned.

Approximately one-third of workers were identified by their supervisors or managers as not being able to communicate adequately in English on the job-site.

These findings were sufficient to continue the project's investigation of defining specific basic skills.

As the project began conducting intensive literacy audits at each of the sites, more information was collected regarding the basic skill needs for each of the areas of change.

Participation in Total Quality Management was most often represented by adoption of Statistical Process Control. Successful participation in SPC training and use of the system requires a solid knowledge of these math skills: adding, subtracting, multiplying, dividing of numbers, most often up to three place decimals; computing an average of about three numbers; rounding off according to an established guideline, and plotting points on a line graph.

Employee Involvement Programs were implemented in the form of Problem-Solving Teams and procedures for the submission of written suggestions. Critical basic skills included the ability to orally communicate problems, causes, and possible solutions. For the Limited English Speaking worker, this necessitated knowledge of all key workplace terms in English and competence in relevant grammatical structures, such as the past tense to describe problems which have occurred. Additionally, depending on the nature of the group processes, a working knowledge of bar charts and line graphs was necessary to collect and display data important to the problem being discussed.

For those sites which had systems for accepting written suggestions, employees had to have the written skills to clearly and comprehensibly explain a problem and describe a solution.

English as the Language of Work is a very important change which was happening at many

sites. While the workers had previously been able to function in their native language (usually Spanish), the addition of other language groups to the workforce required the use of English. The participating employers were all committed to their employees and, as such, were committed to the notion of addressing the problem by developing their workers'English skills rather than "firing them and hiring others".

The goal of the English instruction was to enable the workers to conduct their job tasks in English and also to fulfill their responsibilities as employees in English without assistance. To fulfill the first function, workers had to be able to follow instructions in English, clarify or verify information, describe problems, ask for assistance, read appropriate workplace materials, and be able to be trained in English.

To fulfill their responsibilities as employees, workers had to be able to fill out personnel forms, such as insurance, and read general company memos.

New Technology primarily involved the use of computers to organize work, such as the use of computerized pick tickets in a warehouse. Implementation of SPC often required the use of a calculator which for some workers could be considered a technological innovation. Only one site had actually begun the task of CNC. CNC, as in the case of SPC, required a solid foundation of basic math skills.

Employee Skills Training consisted of Blueprint Reading, Safety Training, Quality Training and SPC Training. All training is conducted in English with the expectation that participants can read support materials written in English.

Basic skills which were needed included the ability to read and comprehend these training materials, manuals, and job aids. (These were usually written at a 6th-8th grade reading level.) Participants also had to have the English skills to comprehend verbal explanations of processes and concepts and the ability to ask clarification questions or to verify comprehension. A simple nodding of the head and responding "Yes, I understand" is not adequate to demonstrate comprehension. In some instances, employees also needed test-taking skills to complete multiple-choice tests on the content.

Work Teams was another trend which was being discussed at the time of the project implementation but which had only been initially implemented at a few sites. Because this was a long-term goal and detailed plans for implementation had not been established, the project did not focus on the basic skills.

The chart on the next page shows the major critical basic skill areas which the project focused on.

BASIC SKILLS CRITICAL FOR MANUFACTURING TODAY

TREND	EXAMPLES FROM SITES	CRITICAL BASIC SKILLS
Total Quality Management	Statistical Process Control	Add, subtract, multiply, divide whole numbers, up to 2 place decimals Measure size, weight Compute and average Plot points on a line graph
Employee Involvement	Quality Circles Problem-Solving Teams Written Suggestions for Improvement	Describe a problem Identify causes Read/Construct bar charts Recommend Solutions
English as the Language of Work	Multilingual workforce Monolingual English supervisors All written communication in English	Follow directions in English Explain job tasks in English Describe problems in English Receive skills training in English Read job aids, manuals, forms, signs in English Fill out personnel forms
New Technology	Computerized Numerical Control Machines Computers/calculators	Read manuals/job aids Perform basic calculations with a calculator Measure size, weight
Employee Skills Training	Blueprint Reading SPC Training Quality Training Safety Training	Read manuals Read Job Aids Take notes Comprehend verbal explanations of concepts and processes Ask clarification questions Summarize Take tests
Work Teams	Cell Manufacturing	Participate in group problem solving

THE PROJECT MODEL

The Project developed a six-part model for providing basic skills. This model proved to be effective in planning and delivering services at each of the thirteen sites. Each part of the model is described below.

Initial Contact

At the first meeting between a literacy provider and a company, it is important for the provider to establish why the company thinks there is a basic skills issue. The provider should ask about any problems the company is having which may be attributed to a lack of basic skills. The providers should probe to find out what training is being implemented now or will be in the future which assumes a high level of basic skills (such as Statistical Process Control, Employee Involvement, Quality Circles, etc.)

Needs Assessment/Needs Analysis

First the provider conducts a Literacy Audit. This includes a thorough orientation to the company - its products, processes, and terminology. Literacy staff tour the company and at the same time conduct in-depth interviews of employees at all levels, managers, supervisors, and line workers, to get their perception of literacy issues. During this fact-finding portion of the audit, literacy staff collects any printed material (pick tickets, move tickets, production forms, newsletters, memos, forms, etc.) and either copies or photographs signs around the plant.

Together the literacy provider and company representative decide which jobs will be analyzed. As no program will have the time or resources to analyze all jobs it is crucial to choose jobs which most students do or which are most important in the eyes of the company. During the job analysis the observer notes down all the tasks an employee performs. Later the observer decides which job tasks involve literacy. Finally, the observer determines the specific type of literacy needed for the job.

Based on the interviews with management, supervisors, and employees, the provider develops an assessment plan. This usually involves selecting standardized assessments to measure math, reading, writing, and English as a Second Language. These assessments serve two purposes: 1) they provide the company with a global view of the skill levels of their employees and 2) they are used to group participants into the different levels. Another assessment alternative is to develop customized assessments which measure basic skills specific to a particular workplace.

Whatever the assessment plan, the company determines which employees will be tested and the best way to inform the employees of the test and the subsequent basic skills program. The company must know up-front that the provider will not release individual test scores. This is done for legal reasons. This policy of confidentiality facilitates employee acceptance of the testing. After testing is completed, the literacy provider releases the overall scores, averages, etc. to the company. The provider may also release scores if the employees' names are coded.

Program Planning

During this phase the provider and the company negotiate the number and type of courses which will be provided. The company decides whether the courses will be held during work hours, after

work hours, or a combination of both employee and company time. Our experience shows that some contribution of employer time greatly increases employee participation and completion of the program.

Details such as whether the company will pay for texts and supplies, where the course will be held, and start dates and end dates are all figured out at this point.

Curriculum

Our program philosophy is that a custom-designed, functional-contextual curriculum is the most beneficial to the company and the participants. Based on the data collected from the interviews with management, supervisors, and line workers, observations made during the plant tours, materials collected from the worksite, and the results of the literacy/task analyses, the literacy provider designs a curriculum. The curriculum writers decide upon competencies/performance objectives, how they will be tested, and then design instructional materials to meet these goals. They also decide which off-the-shelf educational products will be used to supplement their own created materials. The purpose of writing a curriculum is so that at the end of the program the company can hire instructors from a local educational program to deliver the courses using the curriculum.

The curriculum itself contains competencies, performance objectives, core literacy skills, instructional worksheets, textbooks with pages referenced for the specific skill being taught, as well as a thorough list of instructor activities. The curriculum also contains the pre and post tests.

Evaluation

While this step is listed at the end, methods of evaluating whether the program is successful should be considered early on in the planning stages. The company must decide what results they want from this literacy program.

In order to measure whether the program has any effect on the bottom line of the company, some baseline data should be collected before the program is implemented. Some examples of baseline data that companies can collect before and after the program are:

Absenteeism
Accident rates
Attitude Surveys
Employee & Customer Complaints
Employees Promoted
Scrap rates
Tardiness
Employee Suggestions Collected & Implemented

In addition to measuring impact on the company, the literacy provider designs reaction evaluations to measure participants' satisfaction with the courses and post tests to measure participant learning.

MODEL

INITIAL CONTACT
- Is there a Basic Skills issue at this company?
- Why is it an issue?

NEEDS ASSESSMENT/NEEDS ANALYSIS

LITERACY AUDIT
- What are the basic skills and language requirements of the company?
- What are the managers, supervisors, and employees' perceptions of the problems?
- What are the products, materials and terminology of the company?

EMPLOYEE ASSESSMENT
- What are the employee's basic skill levels?
- What is the language ability of the limited-English proficient employees?

PLANNING THE PROGRAM
- Which departments should be targeted?
- Which employees should participate?
- Will employees attend on company time or on their own time?
- Where will classes take place and when will they begin?

DESIGNING THE CURRICULUM
- What competencies should be covered?
- How will learning be measured?
- How can company materials be incorporated into the curriculum?

IMPLEMENTING THE PROGRAM
- How are employees enrolled?
- How is instruction delivered?
- How is learning measured?

EVALUATING THE PROGRAM
- How will we gauge whether participants enjoyed the class?
- How will we know whether participants learned the material?
- How will we know if the participants' behavior on the job improved?
- How can we measure the impact of the course on the company?

A BASIC SKILLS CURRICULUM FOR THE MANUFACTURING INDUSTRY

By

Carol Larsen
Linda Mrowicki

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A Basic Skills Core Curriculum for the Manufacturing Industry

A CURRICULUM is defined in the Competency Mainstream English Language Project (MELT) Resource Package as"

> "a defined outline for an instructional program. Minimally it prescribes WHAT is to be taught. It can also include suggestions for HOW, WHEN, and WHAT MATERIALS."

Our program philosophy is that the responsibility of the curriculum developer is the determination of WHAT is to be taught and the responsibility of the teacher is the HOW, WHEN, and WITH WHAT MATERIALS. The project selects experienced workplace basic skills instructors who are adept in taking the content and developing lesson plans which suit the variety of ability levels, background, and learning styles present in each class.

Rothwell and Brandenburg in their text The Workplace Literacy Primer state on page 187 that

> "In practical terms it means, for example, that basic skills training for reading should be developed from actual materials workers read on the job, should simulate the context in which they carry out job-related reading, and should be integrated with training focused on job-related reasons for reading. This is called the functional job context approach to basic skills training. It would also be used in developing training intended to improve workers' writing, mathematics, problem-solving, interpersonal, or other basic skills." (note 14 - other reference)

Our program philosophy was designed in keeping with this concept of basic skill training development, and therefore we developed a functional contextual curriculum that is custom designed (developed from actual materials workers read and use on the job). This design further directs the teacher to the creation of lessons that will help the employees improve their job performance and makes it more evident to the workplace provider that workplace skills are being taught that will improve the employees' job performance.

Another tenet of our program philosophy is our commitment to competency-based education(CBE). In a workplace, CBE focuses on demonstrating mastery of those basic skills which are necessary for successful functioning in the workplace. Benefits of a CBE approach include:

- a curriculum development process which the participants, management, & educators can jointly develop.
- a delineation of outcomes which are comprehensible to non-educators, such as managers.
- accelerated learning because context is relevant and is immediately applicable to the job.
- learning which can be measured in terms of job performance and impact on the workforce.

As we performed literacy audits and began to create curricula for 13 manufacturing sites we found several basic skills needs which surfaced across these sites and seemed to transcend manufacturing boundaries. We discovered needs primarily in the reading, writing, math, and English speaking skills areas. There were other needs present as well, in the areas of solving and interpersonal communication. The five we chose were deemed to be the most critical at all sites.

One of our purposes in this workplace literacy grant was to develop a more time efficient manner of developing programs for new sites. In keeping with this goal, we evolved a CORE CURRICULUM from the basic skills we distilled from creating curricula for the various sites. This Core Curriculum has been tested and refined through several curricula writings and has been proven to streamline the process of creating curricula.

CORE CURRICULUM CONTENT

The core curriculum is divided into two sections: core competencies and core skills. A competency is defined as a demonstrated ability to perform a task successfully. (MELT-TA Resource Package, p. 174). In the context of workplace literacy, this is a workplace task which involves basic skills. A workplace competency meets the following criteria:

- has a verb which indicates a demonstrated ability.
  Example: Read, ask, sign
  Not learn, know, understand.
- is in a work skills context
  Example: Read a move ticket, report a problem
  Not read numbers, make a report
- involves basic skills
  Example: Listening, speaking, reading, writing, math

Competencies are included in the Core Curriculum. Each core competency is generic to nature; that is, it can be adapted to account for the specific needs of a particular manufacturer. For example, the core competency, "Read a form" can be adapted for Company A and written as "Read Company A's Supply Request Form". An adapted version for Company B might be "Read Company B's Insurance Claim Form". In order for a competency to be included in the core list, it has to be important to a majority of the participating sites.

The competencies are listed in four major content areas: reading, writing, math, and oral communication (ESL). While the definition of workplace literacy includes other content areas such as problem-solving and interpersonal skills, these four content areas were deemed as priority areas in all of the thirteen sites.

Reading

The core competencies focus on the type of written material a manufacturing employee is likely to read. This includes such materials as signs, job aids, and training manuals.

Writing
These competencies include filling out various materials such as forms, schedules and logs; taking notes; and writing various narratives such as suggestions or minutes from a meeting. It is important to note that often writing and reading competencies are intertwined and are thus introduced, practiced, and evaluated at the same time.

Math
Math competencies are critical to all manufacturing jobs. The competencies include calculating piecework wages or numbers of parts produced, measuring sizes or weights of objects, estimating numbers of parts completed, and plotting points on an SPC chart.

Oral Communication (ESL)
These competencies were found to be critical to job performance in a manufacturing environment. This listing limits the competencies to ORAL interaction. Competencies to develop reading/writing skills for ESL workers are found in the Reading and Writing sections. Examples of the competencies found in this section include describing the production process, asking clarification questions, and following instructions.

Core Competencies: READING

1. Read a sign
2. Read a label
3. Read a list
4. Read a To Do list
5. Read a schedule

6. Read a form
7. Read a paycheck/stub

8. Read a memo
9. Read a checklist
10. Read a job-aid
11. Read a basic list of instructions
12. Read a procedural memo
13. Read an informational memo
14. Read an agenda

15. Read a map
16. Read a floor plan

17. Read a training manual
18. Read a procedural handbook/manual
19. Read a newsletter

20. Read a chart
21. Read a diagram
22. Read a timeline
23. Read a flow chart
24. Read a bar graph
25. Read a circle graph
26. Read a histogram
27. Read a simple line graph
28. Read a complex line graph with upper and lower limits and/or a baseline

Core Competencies: WRITING

1. Fill out a simple form
2. Fill out a complex form

3. Fill in a schedule
4. Fill in a log
5. Fill in a chart
6. Fill in a line graph

7. Write a memo
8. Write a list of instructions
9. Write a description of a problem
10. Write a suggestion
11. Write a solution
12. Write minutes from a meeting

12. Take notes during verbal training
13. Take notes on written materials
14. Take notes at a meeting

CORE COMPETENCIES: MATH

1. Calculate piecework wages.
2. Measure the size of an object.
3. Check amount of pay and deductions for accuracy.
4. Calculate averages for S.P.C. chart.
5. Plot points on an S.P.C. chart.
6. Calculate weight.
7. Estimate amount of supplies needed to complete a task.
8. Calculate number of parts scrapped.
9. Estimate number of parts completed during a specific time period.
10. Calculate number of parts completed during a specific time period.
11. Estimate amount of time needed to complete a task.
12. Calculate amount of time needed to complete a task.

CORE COMPETENCIES: Oral Comunication (ESL)

ENGLISH AS A SECOND LANGUAGE ORAL COMPETENCIES

Job Performance

1. Identify products and departments of a company.
2. Describe production process.
3. Follow instructions to carry out a simple task.
4. Respond appropriately to supervisor's comments about the quality of work on the job, including mistakes, working too slowly, incomplete work, or a job well done.
5. Request the supervisor to check the work.
6. Report completion of the task to the supervisor.
7. Request Supplies.
8. Ask where an object is located.
9. Follow and give simple oral directions to locate an object or place.
10. State a problem and ask supervisor or co-worker for help as necessary.
11. Respond to inquiry as to nature of the current task; state amount and type of work already completed.
12. Identify substandard products and the reasons.

Clarification/Verification

1. Clearly state that something has been/has not been understood.
2. Repeat to verify that something has been understood.
3. Ask someone to repeat more slowly or to repeat something.

Work Schedule/Time Sheet/Paychecks

1. Report errors on paycheck or piecework form.
2. Respond to request to work a particular shift or schedule.

Safety

1. Report unsafe conditions to supervisor.
2. Communicate emergency situation.

General Work Related

1. Give appropriate reason for absence or tardiness in person or on the phone.
2. Request permission to take time off, leave early or change a work schedule.
3. Orally apply for a job promotion or transfer.

Social Language

1. Initiate and respond to greetings and farewells.
2. Ask and answer questions about personal background, family, daily activities, weekly routines, and weekend activities.

CORE SKILLS

The lists of Core Skills are identified in four areas: reading, writing, math, and ESL. All the skills listed were identified as being critical to the successful learning of one or more competencies. A skill is different from a competency in that a skill is discrete and can be practiced within a variety of competencies. Successful performance of a competency often hinges on the learners' ability to perform a series of skills. For example, in order to read a warehouse order (competency), a worker will use seven skills to demonstrate mastery of the competency. He or she will:

1. scan for information to locate the item number
2. read technical words (Eg. head gasket)
3. read an alpha-numeric code (Eg. A-5678)
4. read an abbreviation (Eg. QTY)
5. read whole numbers (Eg. 10)
6. match alpha-numeric codes (Eg. the A-5678 on the order form with the code on the box)
7. count to 10.

The Core Skills play a major role in both the development of curriculum and in lesson planning. From the standpoint of curriculum development, it is important to identify which skills are used in the performance of a competency. This is a vital part of the "WHAT IS TAUGHT" in the curriculum. In planning actual instruction, a teacher needs to incorporate these skills into the lesson plan. The skills need to be introduced and practiced sequentially. In the event that learners are having difficulty in a lesson, the teacher may have to focus on a skill and "drill" it until learners understand it. A teacher will also want, from time to time, to spiral skills and show how they may be transferred to other contexts. For example, the skills which are used to read a warehouse order form may be transferred to the reading of a coupon in a grocery store.

The list of Core Skills is comprised of:

Reading

These skills include matching and comparing/contrasting such elements as numbers and codes, reading technical and non-technical vocabulary, scanning and skimming for information, accessing information from reference materials, and cross-referencing documents.

Writing

These skills include copying and/or writing such information as codes, numbers, and abbreviations; writing phrases, sentences, and paragraphs, and using correct punctuation and capitalization.

Math

Math skills can be considered as mathematical operations. They range from comparing whole numbers (distinguishing which number is greater than another) through performing the four mathematical operations (Addition, subtraction, multiplication, and division) over whole numbers, fractions and decimals. The math

list also includes adding and subtracting percents, converting from one numerical form to another, and converting standard measurements to metric measurements.

Oral Communication (ESL)
Language skills are often defined as listening, speaking, reading, and writing. These skills are addressed in the curriculum through the competencies within the content areas. Two other components of language, vocabulary and grammatical structure, must also be taken into consideration when discussing language. Because vocabulary is highly dependent upon the specific industry, the project felt that it was not appropriate to identify core words. Vocabulary is addressed on a case by case basis in the job task analysis and in the customized curriculum development.

While the program strongly advocates language acquisition and the introduction and practice of language in a meaningful context, one must recognize the role of grammatical structures. The list of grammatical structures is NOT intended to be used as instructional content per se. The intent is to provide a list of structures which are commonly used and which the worker must be familiar with in order to accomplish the task. The instructor can refer to the list when selecting structures which are appropriate to the level of students and when making decisions regarding which structures the students should be able to comprehend and/or produce and the degree of accuracy for that production.

The core skills are listed on the following pages.

Core Basic Skills: READING

1. Match numbers
2. Match letters
3. Match words
4. Match alpha-numeric codes

5. Read alpha-numeric codes
6. Read an abbreviation and know the referent
7. Read a symbol and know the referent
8. Read an acronym and know the referent
9. Read dates
10. Read times

11. Compare/Contrast numbers
12. Compare/Contrast symbols
13. Compare/Contrast alpha-numeric codes
14. Sequence alpha-numeric codes

15. Read whole numbers
16. Read up to three place decimals
17. Read fractions
18. Read amounts of money
19. Read weights
20. Read signs
21. Read dimensions

22. Read technical vocabulary
23. Read non-technical vocabulary
24. Locate a word or term in an alphabetical list
25. Determing the meaning of an unfamiliar word from context

26. Read information aloud comprehensibly
27. Scan for information
28. Skim for information

29. Read columns and rows
30. Read subcolumns and/or subrows

31. Access a legend to read a document
32. Access a title block to read a blueprint
33. Access a table of contents
34. Access a glossary to find a definition
35. Access a dictionary to find a definition
36. Use an index
37. Access appendices

38. Access headings and sub-headings
39. Cross-reference documents
40. Cross-reference charts with narrative
41. Locate references mentioned elsewhere in a text
42. Read for literal comprehension
43. Read for inferential comprehension
44. Read for critical comprehension

Core Basic Skills: WRITING

1. Copy codes
2. Copy numbers
3. Copy written words, sentences, etc.

4. Write numbers
5. Write amounts of money
6. Write times
7. Write dates
8. Write an address
9. Write basic personal information
10 Write common words
11. Write technical words
12. Write abbreviations

13. Write a simple sentence
14. Write a complex sentence
15. Write a phrase(s) to express an idea (machine broke down-7:30)
16. Write a paragraph
17. Use correct punctuation and capitalization

Core Basic Skills: MATH

1. Count
2. Compare whole numbers (greater than, less than)
3. Compare fractions
4. Compare decimals
5. Compare percents
6. Compare units of measurements such as time, weight, volume, etc.

7. Add whole numbers
8. Subtract whole numbers
9. Multiply whole numbers
10. Divide whole numbers

11. Add fractions
12. Subtract fractions
13. Multiply fractions
14. Divide fractions

15. Add decimals
16. Subtract decimals
17. Multiply decimals
18. Divide decimals

19. Calculate percents

20. Add, subtract, multiply, divide units of measure such as time, weight, volume, etc.
21. Divide whole numbers and leave remainders
22. Divide whole numbers and show remainders as fractions or decimals
23. Round off numbers

24. Convert fractions to whole numbers
25. Convert decimals to fractions
26. Convert fractions to decimals

27. Measure inches and fractions of an inch
28. Measure in metric system.

29. Convert metric weight to pounds and ounces
30. Convert pounds and ounces to metric weights
32. Convert inches to metric units
33. Convert metric units to inches

Core Basic Skills: LANGUAGE FORMS*

Adjectives: adjective + noun, demonstrative, indefinite

Adverbs: of frequency, manner, place, time today, for/since, ago, intensifiers

Articles: indefinite, definite

Be: Be + adjective, contractions, past tense, present tense

Embedded Questions

General You

Impersonal Subject: it, there is

Modal Verbs: can, have to, can/may, could/might, should, will, must, supposed to, perfect modals, would rather, ought to

Subordinate Clauses: Relative, of cause, of time, of place

Comparisons (Adjectives): -er, more/than, -est, the most, the least

Comparisons (Nouns): as...as, ...like..., same...as, different from

Conjunctions: and, but, or, both...and, either...or

Nouns: count/non-count, possessive(s), singular/plural, gerunds

Numbers: cardinal, ordinal

Prepositions: prepositional phrases of place, of time

Pronouns: demonstrative, indefinite, object, possessive, reflexive, subject

Questions: negative questions, tag questions "wh-- questions", yes/no questions

Reported Speech: statement, questions, yes/no questions, imperatives

Verb Tenses (Affirmative, Negative, Interrogative, Short Answers, Contractions): present, present continuous, past, imperative future; past continuous, present perfect, past perfect, conditional; passive present, passive past, passive present continuous

Word Order and Patterns: verb + indirect object + direct object; verb + direct object + to + indirect object; verb + direct object + for + direct object; verb + infinitive; verb +

object + infinitive; verb + verb-ing

Other Grammatical Points: casual "have", suggestions/indirect commands with "let's/let's not"; two word verbs separable, two-word verbs inseparable, interjections, exclamatory

* From the MELT Resource Package.

USING THE CORE CURRICULUM

By

Carol Larsen
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USING THE CORE CURRICULUM

Writing a curriculum begins with asking the question, "What are the present and future educational needs of this worksite?" The answer to this question provides the raw material for writing the objectives of the curriculum. The literacy audit is the vehicle through which we obtain this information. A literacy audit is a formal examination of the workplace, jobs, materials, and worker interactions in order to identify the basic skills. A literacy audit includes interviewing managers, supervisors, and employees; conducting job task/basic skill analysis, and collecting/analyzing written material. The end result of the literacy audit is an identification of the basic skills needed for particular jobs.

How to Conduct a Job Task/Basic Skills Analysis

One must select jobs for analysis. A good job to choose has:

1. reading, writing, math, or oral communication (ESL) required for the job
2. a large percentage of employees doing the job currently or projected to do the job in the future
3. supervisors reporting that there is a basic skills problem within this job category.

The following procedures have been field-tested and found to be an efficient process for conducting the analysis.

Step 1: Observe a job being performed and interview the employee about what he or she is doing.

Observing the job allows the Curriculum Developer to see the tasks and the environment in which those tasks are performed. From this observation and from the interview, the Curriculum Developer can ascertain the major job tasks. While it is possible to spend a great deal of time performing this step, project experience indicates that a repetitive, single step job can be analyzed in about thirty minutes while a more complex job will require a few hours.

Step 2: List the job tasks sequentially.

A thorough job task analysis requires that each task and subtask be listed. Because the focus of a Basic Skills Project is on basic skills and time is limited, the project found that a brief, sequential listing of tasks is sufficient. Most task analyses were limited to eight to fifteen steps.

Step 3: Identify those job tasks which require basic skills.

The Curriculum Developer reviews the tasks and determines which require reading, writing, math, or ESL skills.

Step 4: **For the job tasks identified above, use the Core Competency List to identify the core competencies, use the Core Skill List to identify the skills, and identify specific company materials, terms, or situations.**

This analysis forms the foundation of the basic skills curriculum. After each job is analyzed, the Curriculum Developer can use the information to create customized competencies, course syllabi, and performance objectives for each company.

The steps are summarized below.

JOB TASK/BASIC SKILLS ANALYSIS

- Observe jobs and interview workers.
- Write the major job tasks sequentially.
- Select those job tasks requiring basic skills, note the:
  - Core Competency (ies)
  - Core Skill (s)
  - Company specific materials, terms, and/or situations.

The project Job Task/Basic Skills Analysis form is found on the next page. This is followed by a sample form completed for a job.

JOB TASK/BASIC SKILLS ANALYSIS FORM

Job: _____

Job Tasks:

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Job Task Number	Basic Skill Competency	Core Literacy Skills	Co-Specific Terms, Materials, Situations

JOB TASK/BASIC SKILLS ANALYSIS FORM

Job: Coining Welds

Job Tasks: 1. Reads Instruction Card. 2. Reads tag on stack of wires received from welder and matches job number. 3. Measures thickness of wire with micrometer and matches to thickness noted on Instruction Card. 4. Puts about 50 wires in front of her. 5. Brushes grease on weld. 6. Places wire on 2 grooves of the die, centering the weld. 7. Presses pedal 4 times, which stamps die. Turns wire so hits all surfaces. 8. Picks wire up in left hand, checking by feel for smoothness of coin. 9. Repeats above until stack of wires is completed. 10. Bands together groups of 50 wires and writes her clock number and welder's clock number on a tag. 11. Cleans die 2 times per hour. 12. Verbally reports to supervisor the number of wires coined.

Job Task Number	Basic Skill Competency	Core Literacy Skills	Co-Specific Terms, Materials, Situations
1	Read a basic list of instructions	Read for literal comprehension Read technical words and non-technical words	Instruction Card Hand written directions Weld
2	Read a label	Scan for information Match alpha-numeric code	Range of thickness
3	Measure in metric system	Read up to three place decimals	Instruction card Tag-6W-576 Micrometer
	Read a basic list of instructions	Scan for information Match numbers	Instruction Card
10	Calculate number of parts produced	Count	Coin welded wires - 50
	Fill out a simple form	Write numbers Copy numbers	Tag Clock number -5743

HOW TO WRITE A CUSTOMIZED CURRICULUM

The project prepared customized currica for each course offered at a site. Each curriculum consisted of a list of competencies for the course and a syllabus. The syllabus is written for the teacher to use as a guideline in designing daily instruction. The philosophy of the project, as stated earlier, is that it is the responsibility of the curriculum developer to determine WHAT is to be taught. The syllabus is the vehicle by which the WHAT is communicated to the teacher and from which the teacher designs the HOW.

The three steps for developing a customized curriculum are:

Step 1: Using the Job Task/Basic Skills Analysis, write customized competencies.

The Curriculum Developer reviews the results of the literacy audit (job task/basic skills analysis, the summer of the interviews, and analysis of the written materials) to determine which competencies should be included in a course. These competencies are then written in terms which relate to the specific needs of the workplace.

Step 2: Obtain approval for the list of competencies.

The draft of the list of the competencies is then shared with appropriate people for their input and approval. Some or all of the following people may be involved with the review process: the company contact person, key managers, supervisors, union leader(s), and workers.

Step 3: Write a course syllabus which includes competencies, basic skills, company-specific terms, activities, and resources.

For each competency in the curriculum, the syllabus first identifies the basic skills which are needed to perform that competency. These are, of course, in the areas of reading, writing, math, or oral language.

Then, company-specific terms, materials, or situations are identified. It is this category of information which makes the curriculum customized to the local needs of a specific company. The Curriculum Developer lists any local information which the teacher should include into the lesson plan. For example, sample terms could be "Quantity and No." on one company's form and "QTY. and #" on another company's form. Materials can refer to specific company forms, memos or handbooks which are relevant to the competency. Situations describe any pertinent information regarding the context in which the competency is demonstrated in the workplace. For the competency, "Follow instructions to perform a task", an example of a situation is "Instructions are given by the Lead worker" or "Instructions are given by the supervisor".

The syllabus also contains a list of possible learning activities which are appropriate to the lesson. In planning the lesson, the teacher reviews the list and chooses those activities which are appropriate to the competency and to the proficiency level and learning styles of the students.

The final part of the syllabus contains resources and materials. They include references to pages of appropriate commercial materials or teacher-developed worksheets.

The steps are summarized below.

Developing A Customized Curriculum

- Using the Job Task/Basic SkillsAnalysis, write customized competencies.
- Obtain approval for the list of competencies.
- Write a course syllabus which includes competencies, basic skills, company-specific terms, activities, and resources.

Exerpts from three customized curricula follow.

COURSE SYLLABUS:

LEVEL: _____

COURSE COMPETENCY	CORE BASIC SKILLS	COMPANY SPECIFIC TERMINOLOGY	ACTIVITIES	RESOURCES/ MATERIALS

Course Competencies: **Reading for the Warehouse**

Level: Beginning

Schedule: 7:00 - 9:00, Tuesday & Thursday, 4 weeks (16 contact hours)

1. Read a company label.
2. Read a bin location in the warehouse.
3. Read information about company parts on a Pick Ticket.
4. Read a company Container Chart.
5. Read destinations on a Pick Ticket.
6. Read a destination number on a Pick Ticket.
7. Read net weight on a company Pick Ticket.
8. Read a company Pick Ticket to determine if it is a priority.
9. Read Pick Ticket number on a company Pick Ticket.
10. Read Part Number on a company Pick Ticket.
11. Read description of parts on a company Pick Ticket.

COURSE SYLLABUS: Reading for the Warehouse
LEVEL: Beginning

COURSE COMPETENCY	CORE BASIC SKILLS	COMPANY SPECIFIC TERMINOLOGY	ACTIVITIES	RESOURCES/ MATERIALS
Read a company label	Read whole numbers Match numbers Read technical vocabulary	Part Number - 08068806	Sight word reading Vocabulary development Matching Exercise	Teacher made materials Contemporary: Pre-GED Mathematics and Problem Solving Skills: Book 1
Read a bin location in the warehouse	Scan for information Match alpha-numeric codes Read alpha-numeric codes	Bin location - E7-17-03	Information gap Matching exercise	Teacher made materials
Read information about company parts on a Pick Ticket.	Read whole numbers Read weights Read technical vocabulary Read non-technical vocabulary Scan for information Read dates	Part number - 08068806 Net weight - 0.119 Part names - gasket, washer, valve, cam shafts Categories and notations - priority, part number, net weight, issued quantity Dates - 04/09/91	Information gathering Information gap Sight word reading	Teacher made materials

Course Competencies: **ESL for Production Workers**

Level: High Beginning

Schedule: 3:00 - 5:00 Monday & Wednesday for 9 weeks (36 contact hours)

1. State job title and describe job duties.
2. Name departments and identify the materials used in each department.
3. Read and understand the company process flow chart.
4. Read Operator Basic List of Instructions.
5. Give and follow simple oral directions to locate an object or a place.
6. Read a job card.
7. Give appropriate reasons for absence, in person or on the phone.
8. Give apologies appropriately when a situation calls for it.
9. Clarify/verify spoken speech.
10. Read and understand departmental memos.

COURSE SYLLABUS: ESL for Production Workers
LEVEL: HIGH BEGINNING

COURSE COMPETENCY	CORE BASIC SKILLS	COMPANY SPECIFIC TERMINOLOGY	ACTIVITIES	RESOURCES/ MATERIALS
Operator's basic list of instructions	Read for literal comprehension. Read non-technical vocabulary. Read a diagram.	Non Technical Vocabulary: thickness, color, density type, noticed, width, set-up, put-up.	TPR Listening Exercises Information Gathering Sight Word Reading	Realias & Visuals of Company materials. Worksheets for Listening Exercises. "Operator Instructions and Checklist".
Follow and give simple oral directions to locate an object or place.	Language Forms: Prepositions Reported Speech Questions	Prepositions "Next to, across from, upstairs, through, in front of, go upstairs/downstairs." Questions - where. Reported Speech.	Students draw floor plans of their department. TPR	Speaking Up at Work pp. 23-26. Working in English pp. 134-137. Factory Floor Plan.
Read a Company JOB Card.	Read dates. Read abbreviations & know the referent. Read alpha-numeric codes. Read up to 2 place decimals.	Abbreviations on Job Card: ORD, QUAINT, CUST, LOC, DESC. Alpha-Numeric Codes: PO94156 .24 31.31	Information Gap Pronunciation Exercises Listening Task Cloze Exercise	Company Job Card *blank *sample Worksheets on Dimensions

Basic Skills for Statistical Process Control

1. Read, write and count whole numbers, up to 10,000.
2. Add numbers up to 10,000.
3. Subtract numbers up to 10,000.
4. Multiply numbers up to 10,000.
5. Divide numbers up to 10,000.
6. Read and write decimals up to 4 places.
7. Use addition, subtraction, multiplication and division with one to four place decimals.
8. Use calculator to add, subtract, multiply, and divide.
9. Read information on an SPC chart.
10. Plot an SPC chart.
11. Compute an average.
12. Find the range.

(This course teaches the basic math skills needed for successful participation in Statistical Process Control Technical Training. The outcome for the course is the ability to perform the mathematical operations needed for SPC. Hence, this is an example of a skills-based curriculum, not a competency-based curriculum.)

Course Syllabus: Basic Skills for SPC

BASIC SKILLS	COMPANY SPECIFIC TERMINOLOGIES	ACTIVITIES	RESOURCES/MATERIALS
Read, write, and count whole numbers up to 10,000	Cardinal numbers	Counting numbers Dictation Reading numbers on flashcards	Number Power 1 Flashcards Worksheets
Add numbers up to 10,000	Cardinal numbers	Adding exercise	Number Power 1 Worksheets
Compute an average	Vocabulary: Average, add, tenths, hundredths, divide, sum	Addition/division Skill drill	Company form Worksheets

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DESIGNING BASIC SKILL LESSONS

By

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Lesson Plan

A lesson plan is a written guide of approaches and activities made out by the instructor to attain his/her instructional goal. To make each lesson a valuable learning experience to the students, a clearly delineated plan is indispensable to instructors. It makes the delivery of classroom activities spontaneous and meaningful.

Parts of a Lesson Plan.

The project uses a lesson plan format which contains these parts:

The competency could be the title of a lesson expressed as a concrete goal. The competency describes the outcome of instruction, the demonstrated ability to perform a task in a workplace context involving specific language skills.

Materials/Teaching Aids are classroom paraphernalia used by instructors to help clarify and illustrate class content.

Procedures explain the process of delivery to accomplish the teaching goal.

a. Anticipatory Set/Warm-up/Pre-Assessment. An ice breaker with the purpose of setting the tone for the lesson as well as determining the students' familiarity with the material.

b. Stating the Objective. A part of a lesson plan in which the instructor introduces the lesson/topic to be learned.

c. Lesson Proper. The main body of the lesson that includes: review of related vocabulary or skills related to the new lesson, introduction of new concept, and practice exercises.

d. Post Assessment/Checking for Understanding. An evaluation process to check students' comprehension of the new concept. This process enables the instructor to find out if the lesson needs to be repeated or if students need enrichment activities to enhance comprehension.

e. Independent Practice. Suggested activities that would enable the student to put the newly-learned skills into practice either at the worksite or in his private life.

Parts of a Lesson Plan

I. Competency _____

II. Materials/Teaching Aids _____

_____

III. Procedures:

A. Anticipatory Set/Warm-Up/Pre-Assessment _____

_____

B. State the Objective _____

_____

C. Lesson Proper

1. Review related skills to new lesson _____
_____

2. Introduce new vocabulary/concept _____
_____

3. Practice/Drill
(Instructor models. Students listen and observe.)
   a. Group _____
   _____
   b. Pair _____
   _____
   c. Individual _____
   _____

D. Post Assessment/Checking for Understanding _____
_____

E. Independent Practice/Homework _____
_____

Example of a Lesson Plan: ESL - Laima Schnell

Site: A Uniform Company

I. Competency: Read and follow written commands.
II. Materials: Flashcards with pictures of garments, flashcards with names of garments, long piece of cardboard, masking tape.
III. Procedures

A. Anticipatory Set/Warm-Up/Pre-Assessment

1. Students identify garments either by pointing to the correct card or by pronouncing their name.
2. Students read garments' names on flashcards.
3. Students describe garments they are making today or what garments they have made.
4. Students ask for and are each given one of the garment flashcards.

B. State the Objective

Instructor: Today, we will read and follow written commands (Reading TPR Activity). Please read silently.

C. Lesson Proper

1. Review oral TPR activity
Instructor: Sara take the skirt from Aida.
Student: Takes skirt from Aida.

2. Instructor introduces Reading TPR Activity.

a. Instructor holds up a long piece of cardboard and tapes word cards to form commands.

Example:

Give	the Baron jacket	to	Hwa.

b. Students quietly read and perform the written command.

c. Instructor substitutes the command.

Example:

Take	the Baron Jacket	from	Hwa.

3. Practice

Activity 1: Instructor gives each student an envelope containing slips of paper upon which individual words have been written.

a. Student 1 lines up words to form written commands.
b. Student 1 asks student 2 to read the command.
c. Student 2 reads and performs the command.
d. Students 1 and 2 change roles.

Activity 2: Students change one of the elements in the sentence. Same steps as activity 1.

4. Checking for Understanding/Post Assessment

a. Students have several cards in front of them containing names of garments.

b.

Instructor	Student
Asks students orally	Hands in the card with the written word "Tux Dress"

"Where is the Tux Dress?"

Example of a Lesson Plan: Reading/Writing 3 - Carol Larsen

I. Competency: Read Training Materials

II. Materials: Company news bulletin, list of "wh" questions, Mastering Reading Book 4, Unit 19

III. Procedures

A. Anticipatory Set/Warm-Up/Pre-Assessment

Pre-Reading Activity

1. Instructor writes title of the selection on the board for students to think about or guess the main idea of the selection.

   Title of the selection: Learning New Skills for Today

2. Instructor distributes list of discussion questions to students.
   Example: Why is manufacturing changing so quickly?

   How can workers keep up with changes?
   Why is technology affecting industry?

   Students think about and discuss these issues in relation to ABC company and other companies they may be familiar with.

3. Students take notes during class discussion.

B. State the Objective

"This lesson will help you to read training materials."

C. Lesson Proper

1. Reading Activity

a. Instructor directs students to think of the following questions as they read:

Ex. What is this paragraph about?
Is it similar or dissimilar to ABC Company?

b. Students list words that need to be clarified or that they need help pronouncing.

2. Post Reading Activity

a. Students answer the comprehension questions on the text.

b. Class discussion of the selection read.

Ex. What did you find that was similar to the ABC Company?
What did you read about that was new to you?
What was the selection about?
What might an alternate title be for this selection?

3. Practice Activity

Group Oral Reading

a. Instructor reads paragraph as students read along silently.

b. Instructor and students read the same paragraph chorally.

Pair Practice

Students read the same paragraph to one another in pairs as teacher circulates around the room assisting.

4. Checking for Understanding

a. Instructor and students read a particular paragraph in the text.

b. Students answer the main idea questions for that paragraph.

5. Independent Practice

a. Instructor assigns remainder of paragraph main idea section to be done silently.

b. Students answer the main idea question for that paragraph on the text.

DESIGNING CUSTOMIZED ASSESSMENTS

By

Douglas Jones

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DESIGNING CUSTOMIZED ASSESSMENTS

Upon completion of the Basic Skills Analysis the program designer must decide on using a Standardized Test or a Criterion-Referenced Test, as a Post-Test. In our experience of using both types of tests, the Criterion-Referenced Assessment best meets the goals of the Workplace Basic Skills Program.

A Standardized assessment is a test which is given to groups of students under standardized conditions and for which norms have been established. The TABE is an example of a standardized test. Some advantages of using a standardized assessment are: 1) It has been proven to be both valid and reliable 2) It does not require any staff time to develop and 3) Students scores can be compared with other groups scores.

Unfortunately, a standardized assessment may not directly measure desired job performance. It also can lack specific job relevance which might prevent the worker/test taker from demonstrating all that he/she has learned in the class. In some cases, terminology within the test may be unfamiliar to the test taker.

A Criterion-Referenced assessment measures a person's knowledge and/or skills. This test is based on a defined and/or established standard. The development of standards for a criterion-referenced assessment is the result of the program designer's interview with management and the workers and The Basic Skills Task Analysis. In order to assure a relationship between the assessment and the job tasks, project staff needs to define and establish what needs to be measure and how it needs to be measured.

There are three steps in developing competencies for an assessment:

Step 1: Select the competencies to be assessed.

Review the basic skills competencies selected by the project staff and the management of the company. Since the list of basic skills competencies may become very long, the project staff and management will select those competencies which are <u>most critical</u> to the job performance. A joint decision on competencies assures validity and relevance to the workplace.

Step 2: Write the performance objectives.

A performance objective is a description of how mastery of a competency will be demonstrated. For a performance objective we need to have a standard of acceptable performance, a situation for performance and specific behavior to be performed.
These three ingredients are essential to having a <u>Good</u> performance objective.

The example below shows the three ingredients:

> Given a measuring tape(situation), the worker will measure the length of a wire in inches (performance) with 100% accuracy (standard of acceptable performance).

Keeping those three ingredients in mind will guarantee the construction of a good performance objective. It will also assist in the construction of good test items.

Step 3 : Design the test Items

Good test items will allow the test taker an opportunity to demonstrate knowledge and/or ability to perform the designated tasks. This can be done by role-playing, matching, multiple choice questions, fill in the blank, answering questions orally or in writing or a "cloze" activity. What works best strictly depends on what you are trying to measure/observe from the test taker. On the following pages you will find some examples of competencies, performance objectives and test items.

PROCESS FOR DEVELOPING A
CRITERION-REFERENCED ASSESSMENT

- Select a competency to be assessed
- Write performance objectives
- Design test items

EXAMPLES

EXAMPLE 1: Reading

Competency: Read memorandum regarding work schedules.

Performance Objective:

> Given a recent department memorandum a worker will be able to identify new starting time and ending time and the first day of implementation with 100% accuracy.

MEMORANDUM

To: All Employees

From: Personnel Office

Re: New Starting Time

Date: October 3, 1991

Beginning Monday, October 21, 1991 production workers will begin work promptly at 7 a.m. Your new work hours will be from 7 a.m. until 3:30 p.m. This means you are expected to be at your work station and ready to begin work at 7 a.m. If you should have any questions or comments, please direct them to your immediate supervisor.

Test Items:

1) What will be the new starting time? _____
2) What will be the new ending time? _____
3) When will this schedule begin? _____

EXAMPLE 2: Oral Communication (ESL)

Competency: Calling in Sick

Performance Objective:

Given a role-play situation in which the worker has to call a supervisor, he can accurately state his name, clock number and provide a comprehensible explanation for being sick.

Test Item:

The worker is told that he cannot come to work because he is sick. The tester takes the role of the supervisor. The worker is asked to call the supervisor (tester) and provide the appropriate information.

EXAMPLE 3: Math

Competency: Calculate the number of gaskets to ship.

Performance Objective:

Given a specific number of gaskets in a box and a purchase order, the worker will determine how many boxes to ship with 100% accuracy.

Purchase Order		
Item Number	Quantity	Item
624	125	Gas ket

Test Item:

If there are 25 gaskets in a box, how many boxes do you need to ship?

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